

MONTHLY WEATHER REVIEW.

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INTRODUCTION.

The REVIEW for October, 1894, is based on reports from 3,340 stations occupied by regular and voluntary observers. These reports are classified as follows: 150 reports from Weather Bureau stations; 39 reports from U. S. Army post surgeons; 2,199 monthly reports from State Weather Service and voluntary observers; 32 reports from Canadian stations; 221 reports through the Southern Pacific Railway Company; 536 marine reports through the co-operation of the Hydrographic Office, Navy Department, and "New York Herald Weather Service;" monthly reports from 32 U. S.

Life-Saving stations; 60 reports from navigators on the Great Lakes; monthly reports from local services established in all States and Territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

The WEATHER REVIEW for this month has been prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the editor, but the statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, acting chief of that division.

CHARACTERISTICS OF THE WEATHER FOR OCTOBER, 1894.

The most prominent features of the month of October were the hurricane that passed over the south Atlantic States on the 8th and 9th, and those that passed parallel to the Atlantic coast some distance to the eastward on the 16th and 20th and on the 25-27th. The temperature throughout the United States averaged a little above the normal, and many

stations reported the highest mean temperature on record. The precipitation was generally below the normal in the interior of the country, but above the normal in New England, the Middle States, and on the coast of Washington. The current REVIEW contains the first of a series of new chapters on the humidity of the atmosphere and on the relations between meteorology and terrestrial magnetism.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), during October, 1894, is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border. This Chart also gives the so-called resultant wind directions for this month, based on the data given in Table IX of this REVIEW.

During the current month of October the highest mean pressures have been: 30.08, Augusta; 30.07, Atlanta, Chattanooga, and Memphis; 30.06, Galveston, Palestine, Knoxville, and Montgomery. On the Pacific coast the highest pressures have been: 30.09, Salt Lake City; 30.07, Idaho Falls and Carson City; 30.06, Winnemucca.

The lowest mean pressures were: 29.83, Duluth and Port Arthur; 29.85, Moorhead; 29.86, St. Vincent and Marquette; 29.87, Williston; to the northward of this region the lowest pressures at Canadian stations were: 29.82, at Calgary and Battleford; the low area of the Gulf of California is shown by the means 29.86, Yuma; 29.93, Tucson; 29.95, San Diego.

The normal distribution of atmospheric pressure and normal resultant wind direction for the month of October were approximately shown on Chart V of the REVIEW for October, 1893, as computed by Prof. H. A. Hazen, and are not now reproduced. As compared with the normal for October, the mean pressure for the current month was deficient at all stations, except Halifax and Sydney. The region of greatest deficit was in the upper Mississippi and lower Missouri valleys and the Lake region, where the average deficit was about 0.14; the maximum deficits were 0.17 at Duluth and Port Arthur, and 0.15 at Green Bay, Davenport, Moorhead, and Winnipeg, Manitoba. On the Pacific coast pressures were generally deficient; but a region of slight excess, 0.01, extends from San Francisco to Santa Fe.

As compared with the preceding month of September, the pressures reduced to sea level show a rise throughout the eastern slope, Rocky Mountain and Pacific coast stations, the maximum being: 0.11, Idaho Falls and Fresno; 0.10, Salt Lake City and Sacramento; 0.09, Winnemucca and Carson City. From the Mississippi eastward to the entire Atlantic coast the mean pressure had fallen, the largest falls being: 0.15, Yarmouth; 0.14, Father Point, Halifax, Eastport, Northfield, and Rochester; and 0.18, Rockcliffe.